

What is claimed is:

1. An isolated mutant non-structural ("NS") HCV polypeptide comprising a polypeptide having a mutation in the catalytic domain of NS3, wherein said mutation functionally disrupts the catalytic domain.
2. The polypeptide of claim 1, wherein the mutation comprises a deletion.
- ~~3. The polypeptide of claim 1, wherein the mutation comprises a substitution.~~
4. The polypeptide of claim 1, wherein said NS polypeptide comprises NS3, NS4 and NS5.
5. The polypeptide of claim 1, wherein said NS polypeptide consists of NS3, NS4 and NS5.
6. The polypeptide of claim 1, wherein said NS polypeptide consists of NS3 and NS5.
7. The polypeptide of claim 6, wherein NS5 consists of NS5a.
8. The polypeptide of claim 6, wherein NS5 consists of NS5b.
9. The polypeptide of claim 1, wherein said NS polypeptide consists of NS3 and NS4.
10. The polypeptide of claim 9, wherein NS4 consists of NS4a.
11. The polypeptide of claim 9, wherein NS4 consists of NS4b.

12. The polypeptide of claim 4, further comprising a second viral polypeptide that is not NS3, NS4, or NS5 of HCV.

13. The polypeptide of claim 12, wherein the second viral polypeptide comprises an HCV Core polypeptide ("C"), or fragment thereof.

14. The polypeptide of claim 13, wherein the C polypeptide is truncated.

15. The polypeptide of claim 14, wherein the truncation is at amino acid 121.

16. The polypeptide of claim 12, wherein the polypeptide further comprises an HCV envelope protein ("E").

17. The polypeptide of claim 16, wherein the E is E1.

18. The polypeptide of claim 16, wherein the E is E2.

19. A composition comprising
(a) the polypeptide of claim 1; and
(b) a pharmaceutically acceptable excipient.

20. An isolated and purified polynucleotide which encodes the mutant HCV polypeptide according to claim 1.

21. A composition comprising
(a) the isolated purified polynucleotide of claim 20; and
(b) a pharmaceutically acceptable excipient.

22. The composition of claim 21, wherein the polynucleotide is DNA.

23. The composition of claim 21, wherein the polynucleotide is in a plasmid.
24. An expression vector comprising the polynucleotide of claim 20.
- 5 25. An expression vector comprising the polynucleotide of SEQ ID NO:8.
26. A host cell comprising the polynucleotide of claim 20.
27. The host cell of claim 26, wherein the cell is a yeast cell.
- 10 28. The host cell of claim 26, wherein the cell is a mammalian cell.
29. The host cell of claim 26, wherein the cell is an insect cell.
- 15 30. The host cell of claim 26, wherein the cell is a plant cell.
31. The host cell of claim 26, wherein the polynucleotide comprises the sequence of SEQ ID NO:8.
32. The polypeptide of claim 1, wherein the polypeptide further comprises SEQ ID NO:9.
33. A method of preparing a mutant NS HCV polypeptide, wherein the method comprises the steps of:
- 25 a. transforming a host cell with an expression vector according to claim 24, under conditions wherein the polypeptide is expressed;
and
- 30 b. isolating the polypeptide.

34. The method of claim 33, wherein the host cell is a yeast cell.
35. The method of claim 33, wherein the host cell is a mammalian cell.
- 5 36. The method of claim 33, wherein the host cell is an insect cell.
37. The method of claim 33, wherein the host cell is a plant cell.
38. An antibody that specifically binds to a polypeptide of claim 1.
- 10 39. The antibody of claim 38, wherein the antibody is a monoclonal antibody.
40. The antibody of claim 38, wherein the antibody is a purified polyclonal antibody.
- 15 41. A method of eliciting an immune response in a subject, comprising the step of administering to the subject a polypeptide of claim 1.
42. A method of eliciting an immune response in a subject, comprising the step of administering to the subject a polynucleotide of claim 20.
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